CHBE 490 001 Sp18

CHBE 490: Chemical Engineering Car Design

I. General Course Information

Course Description: CHBE 490 Focuses on the design, construction, and testing of a car powered by a chemical reaction. Students will participate in a competition to see which team can design a car to meet the competition metrics.

Meeting Time: Tuesday and Thursday from 4:00 PM – 5:25 PM in Keck 105 (lectures) and OEDK (design work).

II. Teaching Staff

Instructor: Prof. Rafael Verduzco, Office located in Keck Hall room 212. Phone: x 6492. Email: rafaelv@rice.edu. Prof. Verduzco will be available during class times and outside of class by appointment.

III. Course Textbook

There is no required textbook for this course. Supplemental resources will be distributed in class and through Canvas.

IV. Schedule

A schedule for the semester is shown below:

- Weeks 1 – 2: Overview, team selection, literature review of prior design concepts (tech report #1)
- Weeks 3: Brainstorming and Pugh matrix screening (tech report #2)

- Week 4 - 6: Prototyping and testing (prototype evaluation #1, instructor evaluation)
- Weeks 7 – 9: Prototyping and testing (prototype evaluation #2, peer evaluation)
- Weeks 10 – 12: Chem-E-Car testing and refinement.
- Week 13: ChemE Car Competition: (faculty, department evaluation)
- Week 14: Analysis of competition, suggested improvements to Chem-E-Car
- Week 15: Final reports, oral, and poster presentations.

V. Course Website

Course content will be posted on Canvas at https://canvas.rice.edu/courses/8748. This site will be used to make announcements and post handouts, homework assignments, lecture notes, and grades. All students registered for the course should automatically have access to this site. Students that do not have access to the site should contact Prof. Verduzco for access.

VI. Grading

Grading will be determined by a combination of technical reports, prototype evaluations, peer evaluations, faculty evaluations, and goal-setting.

VII. Accommodations

Any student with a documented disability seeking academic adjustments or accommodations is requested to speak with me during the first two weeks of class. Students with disabilities are also encouraged to contact disability support services (https://dss.rice.edu/) in the Allen Center, room 111.

Course Summary: